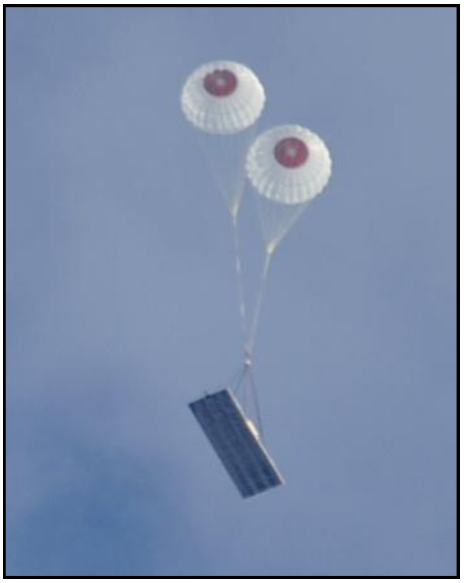
ORION
CREW EXPLORATION VEHICLE

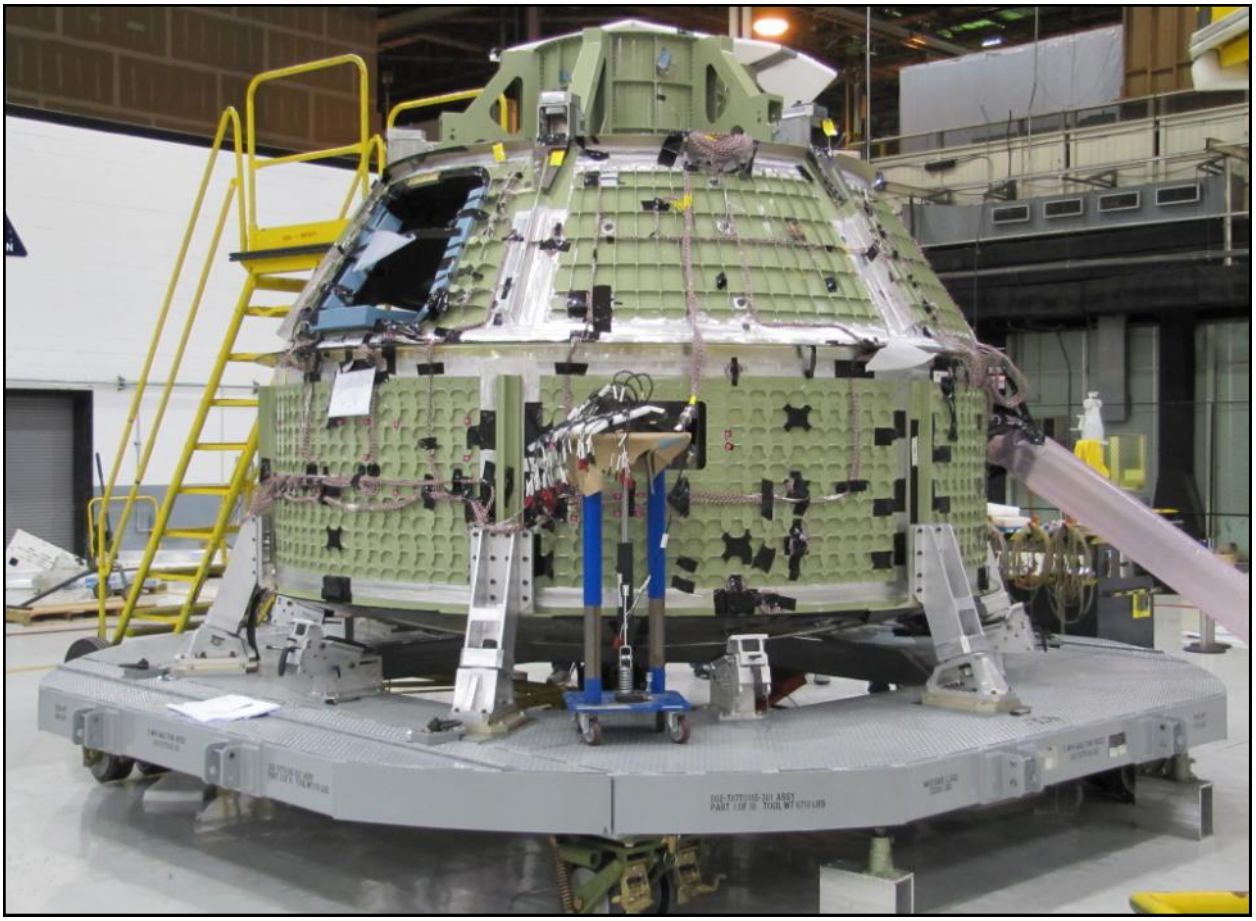
WEEKLY ACCOMPLISHMENTS

07.30.10



A successful parachute airdrop test took place shortly after sunrise on July 27 at the U.S. Army Yuma Proving Grounds in Arizona. The primary test objectives were 1) to measure the performance of a two drogue parachute cluster with one drogue skipping the second of two reefing stages and 2) to measure the performance of a two main parachute cluster with modified suspension line and riser lengths matching the Apollo configuration ratio. Both primary test objectives were met.

The test platform consisted of a pallet and weight tub and was extracted from a C-130 aircraft at 17,500 ft. The two drogue parachutes and two main parachutes deployed and performed nominally although one main parachute experienced a higher inflation load than expected during reefing stages. The test platform and all parachutes were recovered and returned to the hangar.



Work on the Crew Module (CM) Ground Test Article (GTA) continues to progress at the Michoud Assembly Facility in New Orleans, Louisiana. The outriggers that connect the CM GTA to the dolly for support were installed to move for the upcoming proof testing. Proof testing is a standard part of the production process for a pressure vessel, like the CM primary structure. Proof testing is accomplished by increasing the internal pressure of the module to a level above the normal operating pressure. The structure is measured (strain gauges, pressure readings), and as the pressure is increased, the instrumentation shows the resulting stress/strain on the structure.

Temeeka Alexander (a Lockheed Martin Systems Engineer shown left) assists youth attending the Ron McNair DREME Foundation community expose event at Texas Southern University in assembling PA-1 "parachutes" for the Orion Crew Exploration Vehicle. The expose was the culmination of a three week workshop, sponsored in part by Lockheed Martin, for middle and high school teachers and students to promote STEM education and careers in aerospace and other technical fields. More than 200 students and family members attended the community event supported by NASA Johnson Space Center, as well as space and non-space engineering-based companies.